

## A SECOND LOOK AT DYSLEXIA

Relevant for: Government Policies & Welfare Schemes | Topic: Welfare of Persons with Disability - Schemes & their performance; Mechanisms, Laws, Institutions & Bodies

October is 'World Dyslexia Awareness' month. Dyslexia is broadly described as difficulty in acquiring age-appropriate reading skills in spite of opportunity and instruction. Neuroscience has firmly established that dyslexia is due to neurobiological differences in brain wiring and structure; it also has a strong genetic basis. Individuals with dyslexia might have challenges with reading and spelling but many of them have exceptional pattern recognition, art, nursing and entrepreneurial abilities. Goal 4 of the United Nations Sustainable Development Goals (SDGs) says that universal literacy in education (of which reading is a primary component) must be achieved by 2030. Given that population statistics indicate that the incidence in dyslexia is as high as 8-10 % (which means 8 to 10 people in a room of 100) cannot read well, it will be impossible to achieve Goal 4 for 'universal literacy'.

Developments in the 'science of learning' have shown that reading is acquired because of a process called neuroplasticity. Neuroplasticity is the ability of the brain to form new connections. In short, there is no region in the brain designated for reading. Reading happens because children learn to map sounds (of a language) to symbols (writing systems) and then form words. Reading research shows that this happens best in a language that the child speaks.

This new mapping which happens because of 'neuroplasticity' now forms a reading circuit in the brain. This means that the brain is 'malleable'. Neuroscience research also shows that the brain learns best if it is taught in ways that use all the senses — also called 'multisensory learning'. Finally, we also now know that learning requires 'practice'. The brain works like a muscle, and repeating the process helps the child build a strong and stable reading circuit. Remember the first time when you first started going to the gym? Those of us who go to the gym know how difficult it is to motivate ourselves to get up and go and, even harder, to keep going everyday. Think of all the different excuses that we make to not go. Yet, if the first gym class was fun and didn't seem like work, we would go back happily. That's what happens to children when they first learn to read. We need to make the process of learning to read fun and multisensory so that we attract children to it.

How then can we ensure that Goal 4 is achieved? A three-fold action plan could be tried out. One, build awareness of dyslexia. All teachers should know how the brain works, how it learns and the fact that we each have a different brain. A classroom does not consist of 30 copies of the same individual brain. Each child learns differently and the classroom needs to cater to all. Two, build awareness among parents and doctors about 'dyslexia'. Strangely, many doctors, especially paediatricians, don't know enough about dyslexia and, therefore, this needs to be part of their programmes too. Three, build this into policy. India has made a headstart here. In December 2016, Specific Learning Disability (SLD) was included in the Rights of Persons With Disabilities Act, 2016. While the government is struggling to find the right ways to implement it, this movement needs momentum.

From the perspective of the SDGs, dyslexia requires serious thought and action. Governments everywhere need to recognise that one of the biggest reasons for students dropping out of school is because of dyslexia. Recent research also shows that this might also be an important reason for street crime. A study in the U.K., in 2012, showed that 53% of (2,029) prisoners were dyslexic, compared to 10% of the U.K.'s population. Education systems need to be designed to be flexible, to accommodate diversity in the classroom. The 'out of the box' unconventional thinking ability needs to be nurtured and encouraged. Astrophysicist Christopher Tonkin (and a

dyslexic) described his unusual sensitivity to “things out of place” as an advantage to detect visual anomalies in large amounts of visual data. Another dyslexic, molecular biologist Carol Greider was one of the three winners of the Nobel for Medicine in 2009, bagging it for her work on the structure of telomeres. In an age where technology reads to you (audiobooks) and computers write for you and calculators add for you, it may be time to revise the definition of education in Goal 4 — from ‘education for literacy’ to ‘education for humanity’. The description of dyslexia needs to change — from a ‘learning disability’ to a ‘learning difference’.

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